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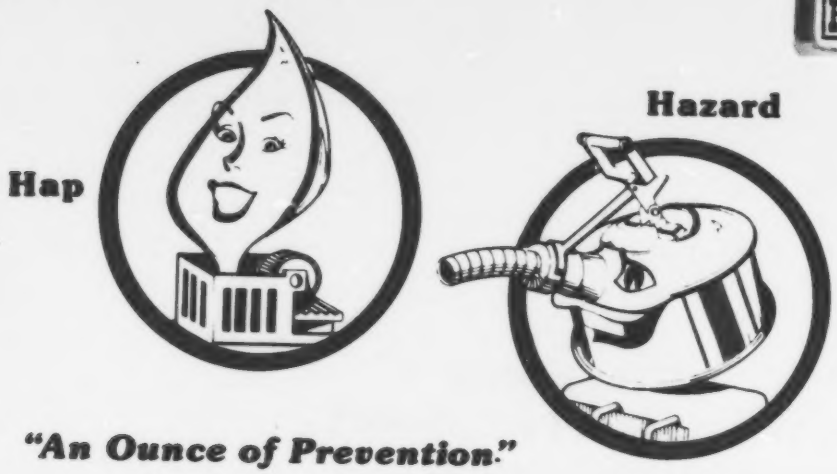

"An Ounce of Prevention."

A Guide to Flammable Products and Ignition Sources

for Elementary Schools

U.S. Consumer Product Safety Commission **Washington, D.C.**

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A Guide to Flammable Products and Ignition Sources for Elementary Schools

U.S. Consumer Product Safety Commission
Washington, D.C. 20207

The U.S. Consumer Product Safety Commission (CSPC) is an independent regulatory agency charged with reducing unreasonable risks of injury associated with consumer products. CPSC is headed by three Commissioners appointed by the President with the advice and consent of the Senate.

To the Educator:

In spite of numerous nationwide fire safety and prevention campaigns, statistical evidence on injuries and deaths resulting from fire is staggering.

Approximately 6,000 people die in fires each year.

Every day—in the United States along—there are 1500 residential fires . . . and one home catches fire every 57 seconds.

Children playing with matches or cigarette lighters account for 21,000 fires each year.

Fire is the third leading cause of death for young people between the ages of 5 and 14.

These numbers do not even take into account the suffering of thousands of others who sustain less serious injuries requiring, at the very least, hospital emergency room treatment. Nor do they reflect the countless "minor" injuries that go unreported.

What is most important in citing these statistics is that many—if not all—of these fires and accidents can be prevented. Some are caused by inattention; others are caused by a lack of information; and still others are caused by the mishandling of flammable products and ignition sources—such as matches, lighters, flammable fabrics, flammable liquids, fireplaces, kitchen ranges, space heaters, and extension and appliance cords.

The U.S. Consumer Product Safety Commission is actively involved in the issuance of safety performance standards for various products, such as matches and flame-resistant children's sleepwear. But legislation and mandatory standards can only do so much. Legislation cannot stop dangerous misuse . . . only information and education can attempt to do that. People must learn and understand why certain products are hazardous . . . why some behavior leads to injury and death . . . and how they, as informed individuals, can prevent or reduce the likelihood of product-associated accidents.

It is logical that safety education should have a place in the school. It is a process that must begin at a very young age—in the kindergarten and elementary school—and it must continue to be emphasized and reinforced throughout all school levels.

Accidents are caused by people—and they can be prevented by people.

It is with this thought in mind that the Commission developed this *Guide*, and it is with this thought in mind that teachers, administrators, and all persons involved in school planning and activities—principals, teacher trainers, curriculum planners, and more—can use the suggestions contained in the Guide to communicate basic information so necessary to the lives and safety of young people.

* Data collected by the National Fire Protection Association

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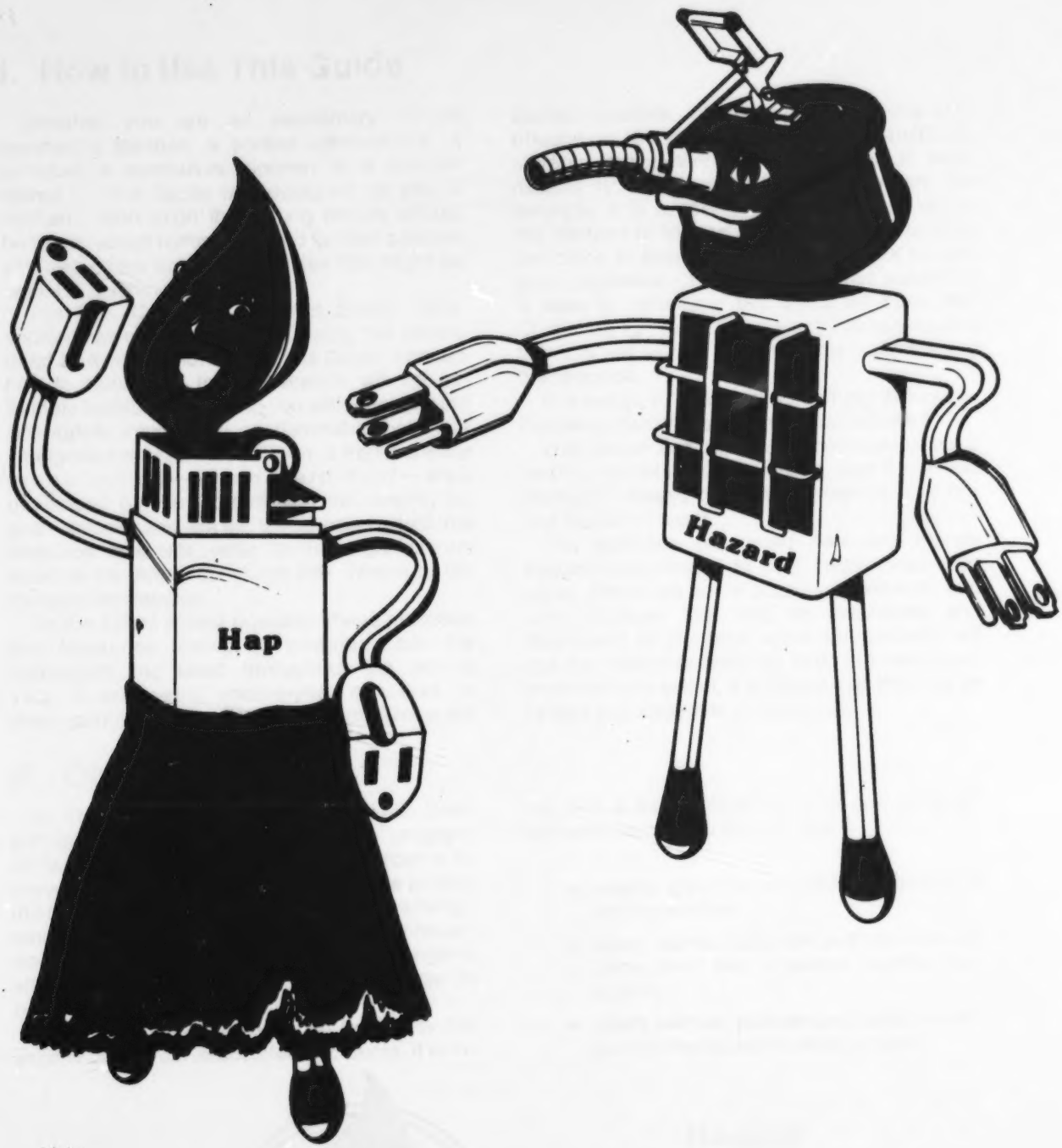
Attention Teachers!

When demonstrating fire in any way, be sure to take the following precautions:

- Have a well-ventilated room to prevent collection of fumes.
- Have the proper kind of fire extinguisher available.
- Have adequate protection for the hands.
- Have a non-flammable container available for fire residue.
- Use tongs when handling combustible materials.



Hap and Hazard are U.S. Consumer Product Safety Commission representatives for flammable products and ignition sources. They appear throughout the materials in this series, guiding consumers to information and activities that will help them learn to protect others. . . prevent property damage . . . and lead safer lives.

So when you see Hap and Hazard, think fire safety!

I. How to Use This Guide

Whether you are an elementary school teacher, a librarian, a school administrator, a principal, a curriculum planner, or a teacher trainer . . . this Guide was designed for you. It contains information that young people should be taught about flammables and ignition sources and also offers ideas for activities that might be useful in teaching these facts.

The U.S. Consumer Product Safety Commission has also produced a catalog that can be used as a companion text to this Guide. Entitled *Fire In Your Life,* this publication will be extremely helpful in providing you with background and safety information on flammable products and ignition sources. In addition, a transparency presentation—*The Hazard Hunt*—was developed by the Commission for viewing by both children and adults. If you need additional resource materials, write to the organizations listed in the Appendix (page 26). Where to Go for More Information.

To the fullest extent possible, these materials and resources should be integrated into the curriculum and used throughout the school year. A one-week, once-a-year exposure to these principles is simply not enough. There are certain seasons, of course, when extra emphasis on the proper selection, handling, storage, maintenance, and disposal of flammables is called for. Before Halloween, for example, it is proper to remind children about the dangers of flammable costumes, of standing too close to bonfires, of using candles to light jack-o'-lanterns. During the Christmas season, it is wise to remember that trees will burn, that Christmas lights can be an electrical hazard, and that it is not safe to put wrapping materials into the fireplace.

It is easier to deal with something that is understood than with something that is feared.

This Guide can aid you in communicating a healthy respect for fire, smoke, and flammable products—based on a knowledge of how fire and electricity work.

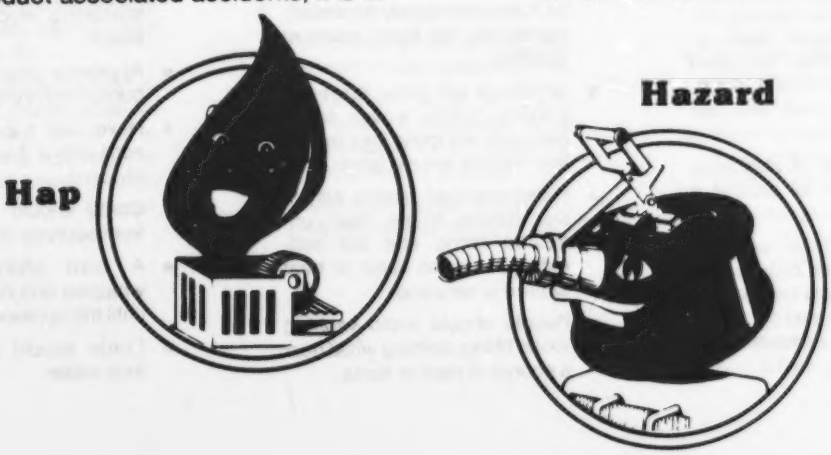
The activities presented here are merely suggestions—meant to help inspire your own ideas. There are some puzzles, checklists, and other devices that may be duplicated and distributed to students; other suggestions will call for additional work by you. But whichever materials you select, it is hoped that they will be helpful and enjoyable for everyone.

II. Objectives

A. The *primary objective* of the U.S. Consumer Product Safety Commission's program on flammable products and ignition sources is to prevent fires by teaching consumers the proper methods for selecting, using, maintaining, storing, and disposing of those potentially hazardous products. What is called for is a change in attitudes, and—along with this—a change in behavior.

B. Since young people are so frequently the victims of product-associated accidents, it is fitting that a *major objective* is to communicate safety information to them so that—

- unsafe attitudes and behavior patterns will be modified;
- newly learned attitudes and behavior will carry over into activities outside the school;
- newly learned attitudes and behavior will be communicated to other people.



III. Basic Product Safety Messages To Be Taught

FOR MATCHES:

- Different types of matches present different types of hazards.
- The correct type of match should be used (i.e., long-handled matches for lighting a fireplace to avoid burned fingers).
- Matches should be kept away from small children.
- A matchbook cover should be closed before striking.
- Matches that have a striking surface on the back cover should be selected.
- Matches should be struck away from the user.
- Matches should not be used near flammable liquids or where vapors are concentrated.
- A match must be completely extinguished before being disposed of (no glow or smoke).
- Children should be taught how to handle matches safely and under supervision.
- Matches should not be used when user is preoccupied with something else, like driving a car.
- Elderly persons and persons with restricted mobility or reflexes must use extra caution when using matches.

FOR SPACE HEATERS:

- Different types of heaters present different types of hazards (fire, shock, toxic gases, explosion, hot surfaces, fabric ignition), so all must be used carefully and according to prescribed safety, care, and use instructions.
- About three feet of clearance should be kept all around a heater.
- Heaters should be selected with guards that reduce the likelihood of direct contact between the heat and/or flame and people or flammables in the area.
- People should avoid using unvented heaters because they can emit carbon monoxide fumes into the room(s).
- Heaters should be kept out of heavily used traffic lanes, away from furniture and drapes.
- Children should be kept away from space heaters.
- Charcoal should never be used in a heating stove.
- In general each heater is designed for one particular fuel; never substitute.
- Heaters should be inspected, cleaned, and adjusted regularly, and serviced at least once a year.
- Electric heaters should be kept away from water sources.
- All ashes in the heater must be cooled before they are thrown away.
- Flammables should never be used or stored near a space heater.
- People should not go to sleep with an unvented space heater on.

FOR FABRICS:

- Primary hazards are ignition and smoldering.
- Fabrics should be kept away from sources of heat or flame.
- When laundering flame-resistant fabrics, care labels should be followed closely to ensure maintaining the flame-resistant qualities.
- All fabrics will ignite; however, smooth, tightly woven fabric generally will ignite less readily than loosely woven fabric.
- Flame-resistant fabrics will resist flames better than untreated fabric and will self-extinguish if the flame or heat source is removed.
- People should avoid wearing loose fitting clothing while near a source of heat or flame.
- Draperies, upholstered furniture, and other fabrics should be kept away from sources of heat or flame.
- If clothing ignites, it should be removed at once if possible. Otherwise, drop down, roll in a blanket or rug to smother the flames, remove the smoldering clothing (if not adhering to the skin), and call a doctor immediately.

FOR EXTENSION AND APPLIANCE CORDS:

- The primary hazards are burns, electrical shock, and electrocution.
- Small children should never be allowed to bite, suck, tug, or play with cords.
- A wall outlet or extension cord should never be overloaded.
- An extension cord must match or exceed the size and type of cord that comes with an appliance.
- Cords must never be placed under carpets, over nails, in doorways, or in high traffic areas.
- Cords should be inspected regularly for fraying, exposed wires, and loose prongs.
- Unused outlets and cord receptacles should be covered with electric tape or plastic safety caps to prevent children from playing with them and sustaining electrical burns or shock.
- Appliance plugs should fit securely into receptacles.
- Never use a 2-wire extension cord with a 3-wire power supply cord.
- Cords should be kept away from sources of heat or flame.
- A cord should never be wrapped around an appliance until the appliance has cooled.
- Cords should be kept away from water.

- Tape extension cords in place when using on a long-term basis.

FOR OVENS AND COOKING RANGES:

- Primary hazards are fabric ignition, direct body burns, and ignition of flammable liquids.
- Flammable liquids and their vapors can be ignited even by the pilot light of a gas range, so use and keep flammable liquids away from the range.
- People should never cook or reach across the range while wearing loose, floppy sleeves.
- People should never lean on the oven or range, or use it to warm themselves.
- Goodies that are tempting to children should not be stored on or near the range.
- Heat-resistant potholders or gloves should be used to remove pots from the range, not towels.
- Close attention should be given to safety features when selecting a range (controls not easily reached by children, knobs turn through a progression of temperature settings, controls in a safe and convenient place for adults).
- To prevent grease fires, the area around the range should be kept clean and cooking oils and fats stored away from the heat source. Grease should not be heated until it smokes. If it does ignite, it can be extinguished by turning the burner off and covering the pan with a lid. Baking soda, if readily available, also can be used to smother the fire.
- Infants should never be left unattended in a kitchen while an oven or cooking range is in use. Oven doors may become hot enough to cause a burn from contact with the exterior surface.

FOR FIREPLACES:

- The primary hazards are flying sparks, fire, smoke, and gases.
- The fireplace should be inspected frequently and used only if it is clean and in good repair.
- A screen should be used in front of the fireplace.
- Flammable liquids, charcoal, trash, or plastic packing material should not be used to encourage the fire.
- When using artificial logs, prescribed safety precautions should be followed.
- People should know how to properly operate the various parts of the fireplace, and the entire family should be instructed in the rules of fireplace safety.
- A fire should never be left unattended.
- Flammable items should be stored away from the fireplace area.
- Children should be kept away from the fireplace.
- Whenever possible, fabrics in the fireplace room should be made of flame-resistant materials.
- A person should not lean over the fireplace for warmth.

FOR FLAMMABLE LIQUIDS:

- Primary hazards are fire and explosion.
- All flammable liquids should be kept away from heat sources.
- Vapors from a flammable liquid can be ignited from a distant flame, spark, or heat source.
- Flammable liquids should only be used in well-ventilated area.
- Water should never be used to extinguish a flammable liquid fire because it can cause the fire to spread or explode.
- Flammable liquids should not be stored in your home or car.
- Fuel should not be added to a charcoal fire after it is started.
- Never keep flammable liquids in glass bottles, plastic jugs or other unsuitable containers. For gasoline, you may want to consider a container with certain safety features such as a pressure release valve and/or a flame arrester.
- Flammable liquids should be kept away from children.
- If a flammable liquid spills, it should be cleaned up immediately.
- Whenever possible, products should be selected that are not flammable. If a flammable liquid is purchased, the label should be read carefully and the directions for storage and use should be closely followed.

FOR LIGHTERS:

- The primary hazards are fire and explosion.
- Lighters should never be used near flammable liquids.
- Check your lighter regularly for cracks, leaks, and other defects.
- If lighter fluid is spilled on or near the lighter, it should be cleaned off completely before lighting the flame.
- Lighters should be kept out of the hands of young children.
- Children should be taught about the potential dangers of lighters.
- A lighter should never be put away until the flame is extinguished.
- Lighters should be used with extra care around fabrics.
- A lighter should not be used when a person is tired or preoccupied.
- Persons with restricted mobility or reflexes must use extra caution with lighters.
- A lighter should be held away from the face and clothing when ignited.
- Persons should be aware of the dangers associated with flammable liquids since lighter fluid is flammable.

IV. Suggested Activities

Young children are among the most frequent victims of burning accidents. It is therefore important for them to know that fire and smoke can hurt them, and that it is dangerous to play with matches or to run or push one another near fireplaces, space heaters, or open flames.

Many of the accidents associated with flammable products and ignition sources are more serious than they might otherwise have been because children are either too frightened or lack the necessary knowledge to prevent, report, or react to the incident properly. Young children must be taught to be responsible, and the activities included here are designed to help you to help them learn to live safely with potentially hazardous consumer products.

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1. Tell A Story

Approximate time: 15 minutes to 1 hour

Materials: None

Objective: Children should understand that playing with matches is dangerous.

The following story will help teach children that playing with matches is dangerous. After reading the story, discuss its meaning with the class.

- Ask if any of the children know someone who has been burned.
- Have any of the students ever put their hands on something hot? Have them imagine how much worse a large burn would be.

A Very Dangerous Game

One day, while their mother was in another part of the house, Linda and Jimmy found a matchbook on the table in the kitchen.

"Why don't we strike some?" said Jimmy. "I like to watch the nice flame."

"Okay," said Linda. "I like to blow out the match whenever Daddy lights his cigarette."

They got a big ashtray and sat down on the floor. The first few matches wouldn't strike at all. They would either crumple up in the middle or the tip or the end would wear off.

The children were just about ready to give up, when Linda finally got one to strike. Then, of course, Jimmy just *had* to keep trying until he too got a match to light.

By this time, there were only a few matches left, so they tried to keep them lit for as long as they could. Then it happened—Jimmy held the match until the flame touched his fingers and burned them. He dropped the match quickly, but it landed on his arm, not in the ashtray. His shirt sleeve began to burn, and both he and Linda screamed. Fortunately, their mother was nearby and came rushing in.

When she saw what had happened, she grabbed her heavy coat off the chair and smothered the flames. After that, Jimmy had to go to the emergency room at the hospital to have his arm taken care of.

The doctor said, "You're a lucky young man, Jimmy. Only your arm is burned because your mother was there to help you. Sometimes we get children in here who are burned all over and have to spend weeks and weeks in the hospital."

"Now, you'll probably have a scar on this arm. I hope it will remind you that matches are not playthings."

Everything hurt a *lot* and Jimmy was really miserable. It was just about the worst thing that ever happened to him, and Jimmy promised never to play with matches again.

Then the doctor sat down and had a little chat with Linda and Jimmy. "Listen," she said, "I know that matches are really interesting and fun to strike. I'm ashamed to admit it, but I used to play with them myself. But since I've been a doctor, I have seen that playing with matches is a very dangerous game."

"Remember, matches are very useful—did you ever try to start a camp fire without them?—But they can also hurt you, can't they, Jimmy?"

"Yeah, they sure can," said Jimmy.

So Linda and Jimmy left the hospital, having learned an important lesson the hard way. Now, when they see matches lying around the house, they ask their parents to put them out of reach of the smaller children.

2. Put Yourself Out

Approximate time: 15 to 30 minutes

Materials: None

Objective: Children should know how to react if their clothing ignites.

Teach your students want to do if their clothes catch on fire. Practice the stop, drop, roll routine.

Stop where you are; don't run, because running makes the flames spread faster.
Drop to the ground. Cross your arms on your chest.
Roll over and over to put out the flames.

3. Puzzle Page

Approximate time: 20 to 40 minutes

Materials: Reproduced copies of puzzle.

Objectives: Children should be able to identify objects that can burn them. Children should understand both the hazards and uses of potentially dangerous objects.

On page 7 are pictures of various objects that may be reproduced and handed out to your students. Ask the children to draw circles around those that might burn them.

Then discuss ways in which those same objects may be useful. For example, a stove may burn you, but it also cooks your food. A candle will burn you if you get too close, but it lights the dinner table or lets you find your way to bed if the electric lights are out.

4. Let's Pretend

Approximate Time:	15 minutes to 1 hour
Materials:	See props required of each skit.
Objective:	Children should know how to react calmly in various kinds of fire emergencies.

Children should know how to react without panic in an emergency. Role play what to do in different situations. The short role play incidents may also make excellent drama productions for elementary school children and can be the basis for participation in school productions or class performances.

1) Have two students pretend to be brother and sister. What would the older child do if he found the younger one playing with matches? Suggest that the right thing to do is to take the matches away, explain that they will burn, and ask parents to keep matches out of reach of younger children.

Roles:	3 children (a brother, a sister, a parent)
Scenes:	Room of house for siblings; parent in another room.
Action:	One child discovers younger one playing with matches; takes them away; explains they will burn; asks parent to keep matches out of child's reach; parent accepts idea and approves of action taken to protect younger child.
Props:	Matches

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2) Have a child pretend that he discovers a fire in the basement at home. What should he do? The proper response, of course, is that he tell a grownup immediately. The child should not panic or attempt to put out the fire.

Roles:	2 children (a child, an adult neighbor)
Scene:	Child's basement; neighbor's home
Action:	Child discovers fire in basement; calmly but quickly goes to neighbor's house to report it. Adult responds positively.
Props:	Simulated fire

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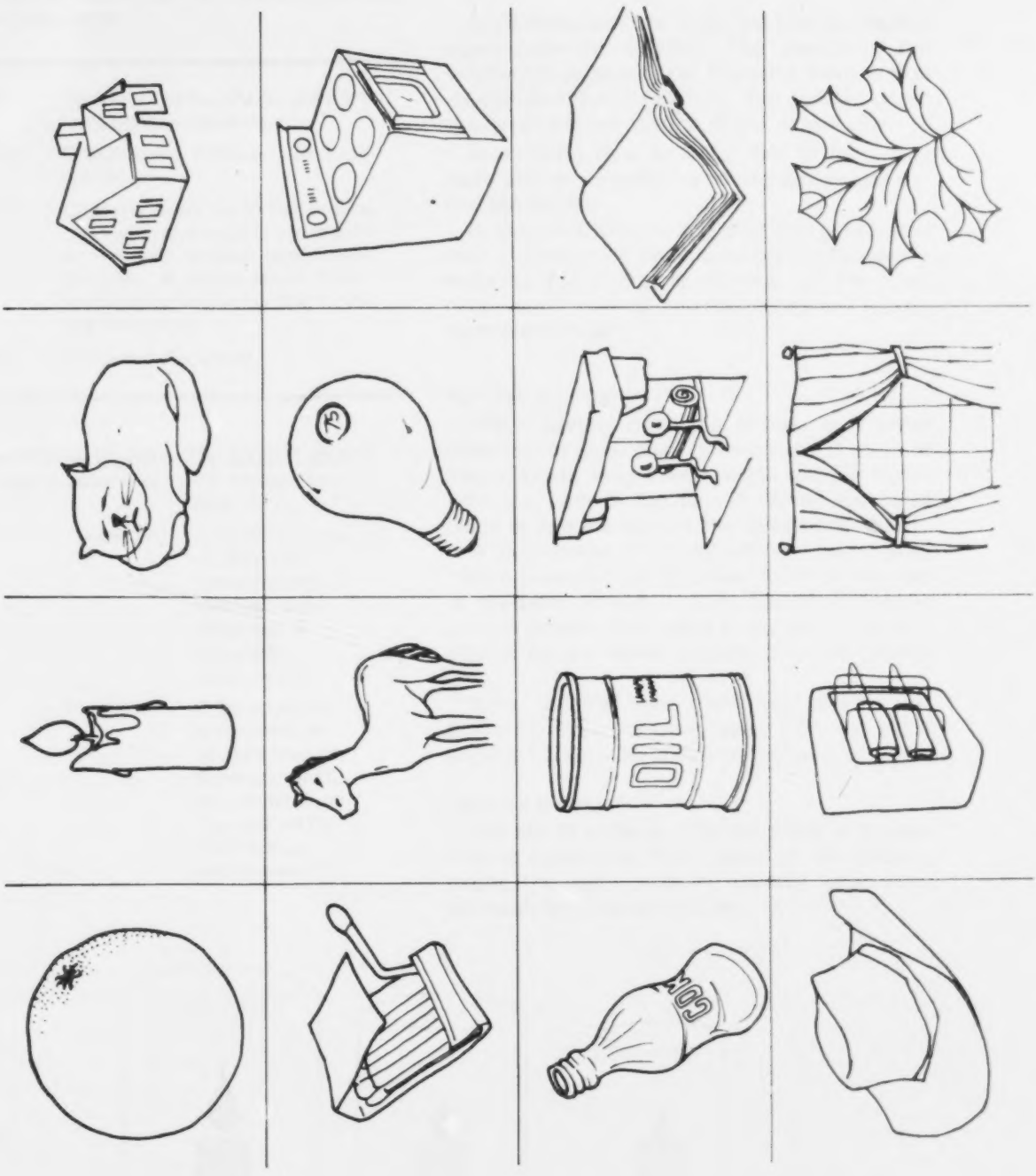
3) Have the child pretend to wake up in the middle of the night and smell smoke. The child should alert the rest of the family by screaming, if necessary; then feel the door or doorknob to test for fire. If it is hot, the door should not be opened. If it is not hot, the child should brace self against the door, opening cautiously. If smoke shoots in, force the door closed and escape by the window. If smoke is pouring under the door, some clothing or bedding should be put into the crack and then child should go to window to be rescued. Many people die of smoke inhalation during a fire, so be sure your students know what to do. Emphasize to the students that each home should have an emergency evacuation plan and that the family should practice it enough so that all members will know their roles during an emergency. Some plans include climbing out of the window, or on to a ledge if the house has this feature, or using an escape ladder. The plan should also include a meeting place for all members of the family.

Roles:	Family of at least three, with at least one child
Scene:	Child's bedroom; hallway; outside of house
Action:	Child wakes to smell of smoke; screams to alert family; feels bedroom door for heat; no heat so opens door and crawls outside; family does same; reunite outside according to evacuation plan.
Props:	None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4) What would happen if there was a fire at school? Pretend that one of the children discovered the fire. Again, the fire should be reported to a grownup. Then everyone should follow the school's established fire drill procedure.

Roles: Several children (one as teacher; remainder as students)

Scene: Classroom; hallway; outside school

Action: Child discovers fire in hall; enters classroom and reports it to teacher; teacher notifies appropriate persons; students leave classroom and school according to fire drill procedure.

Props: Simulated classroom

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5. How Fires Burn—Or Don't Burn

Approximate time: 15 minutes to 1 hour

Materials: 3 candles, 3 jars of different sizes, matches, tissues, deep metal pan or glass dish, tongs, water.

Objectives: Children should know some basic principles of burning so that they understand the reasons behind various safety rules.

The combination of fuel, heat, and air is needed for fire to exist. Show your class how *removal* of air, fuel, or heat can extinguish a fire.

Remove the Air

Light three candles. Then put jars of different sizes over the candles. The candle in the smaller jar goes out first, because there is less oxygen available for burning. The candles under the larger jars will extinguish at a slower rate.

In showing how air helps fire to burn, you have also shown that removing the air will extinguish the fire.

In the same way, rolling over and over when your clothes are burning puts out the flames by reducing the air supply. Running, on the other hand, feeds more air into the flames and makes them burn longer.

Remove the Fuel

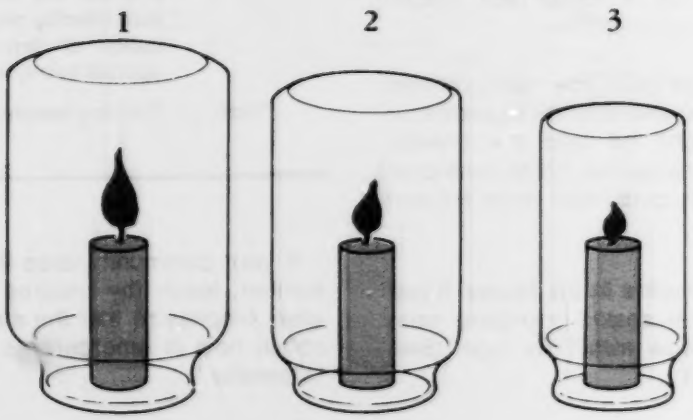
Place several crumpled tissues in a deep metal pan or glass dish. Ignite one small piece of tissue. Using tongs, remove the excess tissue from the path of the flames. When the small piece of tissue is burned, the flames will die out.

A clean home or school will burn less readily than a cluttered one because there is less fuel to feed the flames. This is also the principle used in creating firebreaks in wooded areas. It is difficult for the flames to jump over the cleared area.

Keep the fuel away from heat and flames. Move the trash container away from the stove and the towels from above the burners.

Remove the Heat

Set fire to a piece of tissue paper in a glass dish or metal pan. Pour water on the burning paper. The water cools the material, takes away the heat, and puts out the fire.



Water, of course, is used to put out many fires. If something is burned in a wastebasket, you can extinguish the fire by pouring water on it. But this will not work for all fires. For example, putting water on a grease fire may cause it to splatter and spread; putting water on an electrical fire may cause a shock hazard.

6. Pick A Puzzle

Approximate time: 15 to 45 minutes

Materials: Duplicated copies of puzzles, pencils

Objective: Children should be able to easily identify potential fire hazards.

On the following pages are puzzles to help your students recognize fire hazards. These pages may be duplicated, handed out to the class, and used for coloring after the discussion.

The first puzzle is a cross section of a house. Have the students find the fire hazards in the picture and discuss why they are hazards. What can be done to correct them?

For example, old newspapers and magazines should not be stored near the furnace because they may overheat and catch fire. Either throw them away or take them to a recycling center. If magazines are valued enough to be saved, they should be kept away from the furnace and in a dry area.

Other lessons to be learned from the puzzle are:

— Matches should not be left where small children can reach them.

— Curtains should not be near the range nor should there be a towel rack placed where towels can catch fire.

— Never smoke in bed. The man pictured could fall asleep and drop his cigarette, or hot ashes might fall onto the sheets, smolder, and the gases could suffocate him. The sheets could also catch fire and burn him.

— Never store gasoline in the house. Keep paint remover in sealed non-glass containers, and throw away oily rags. (See following page.)

The second puzzle is a picture in which various potential fire hazards are hidden. Duplicate the puzzle, and distribute it to the class. Have your students find and circle the objects that may burn them.

7. Alarming Suggestions

Approximate time: 15 minutes to 1 hour

Materials: See props required for each skit.

Objectives: Children should be able to report a fire by the various methods available. Children should understand the danger of reporting a false alarm.

Children should know how to report a fire by telephone, at an alarm box, or to a grownup. Role play turning in an alarm.

If the alarm is turned in by phone, the child should know the fire department number. It should be taped over or near the home telephone. You might even have the children make such cards to place by their telephones. Have the students practice reporting a fire by using a play telephone. Be sure they give their names and addresses clearly and correctly.

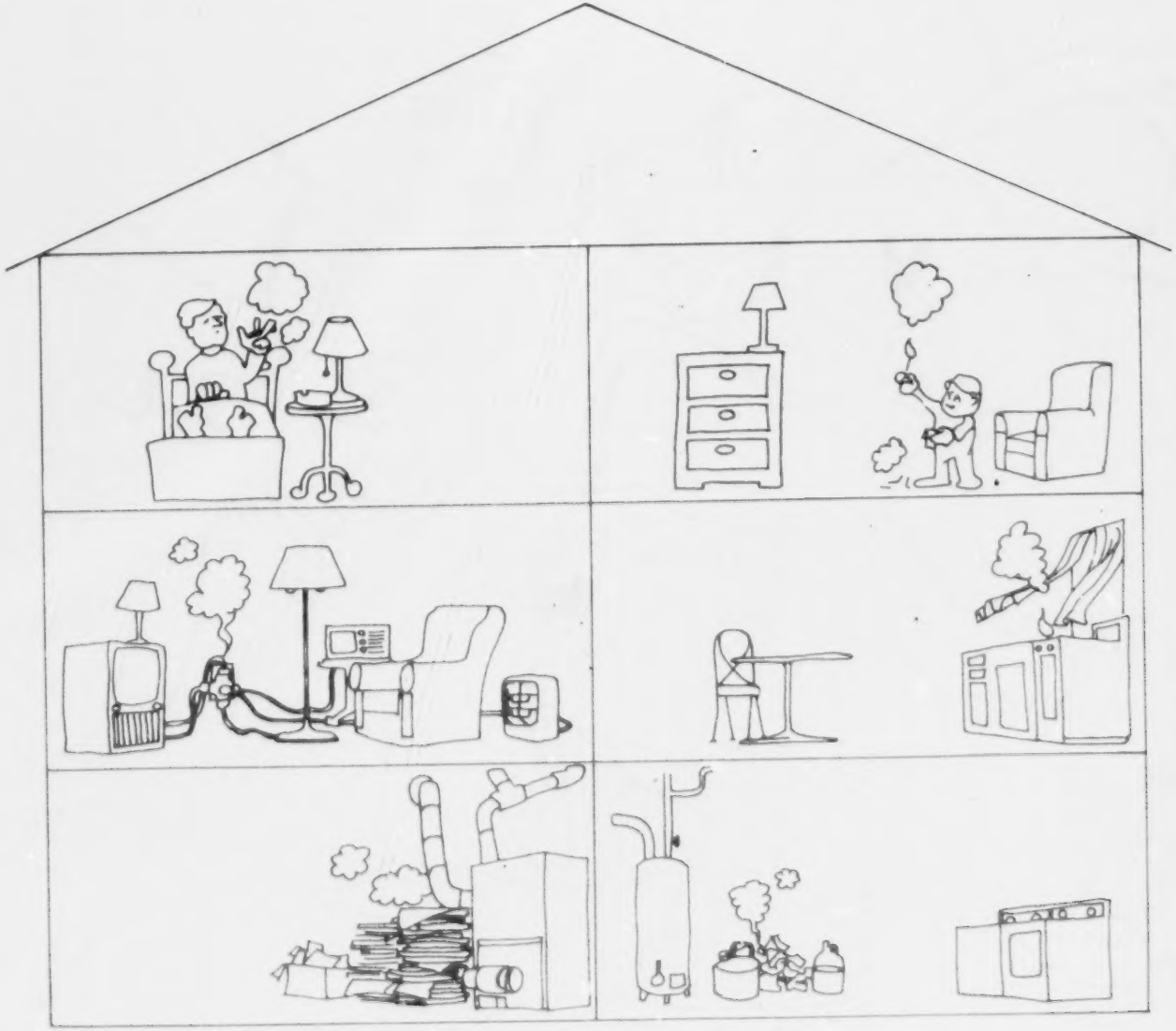
Roles: 2 children (a child, a fire fighter)

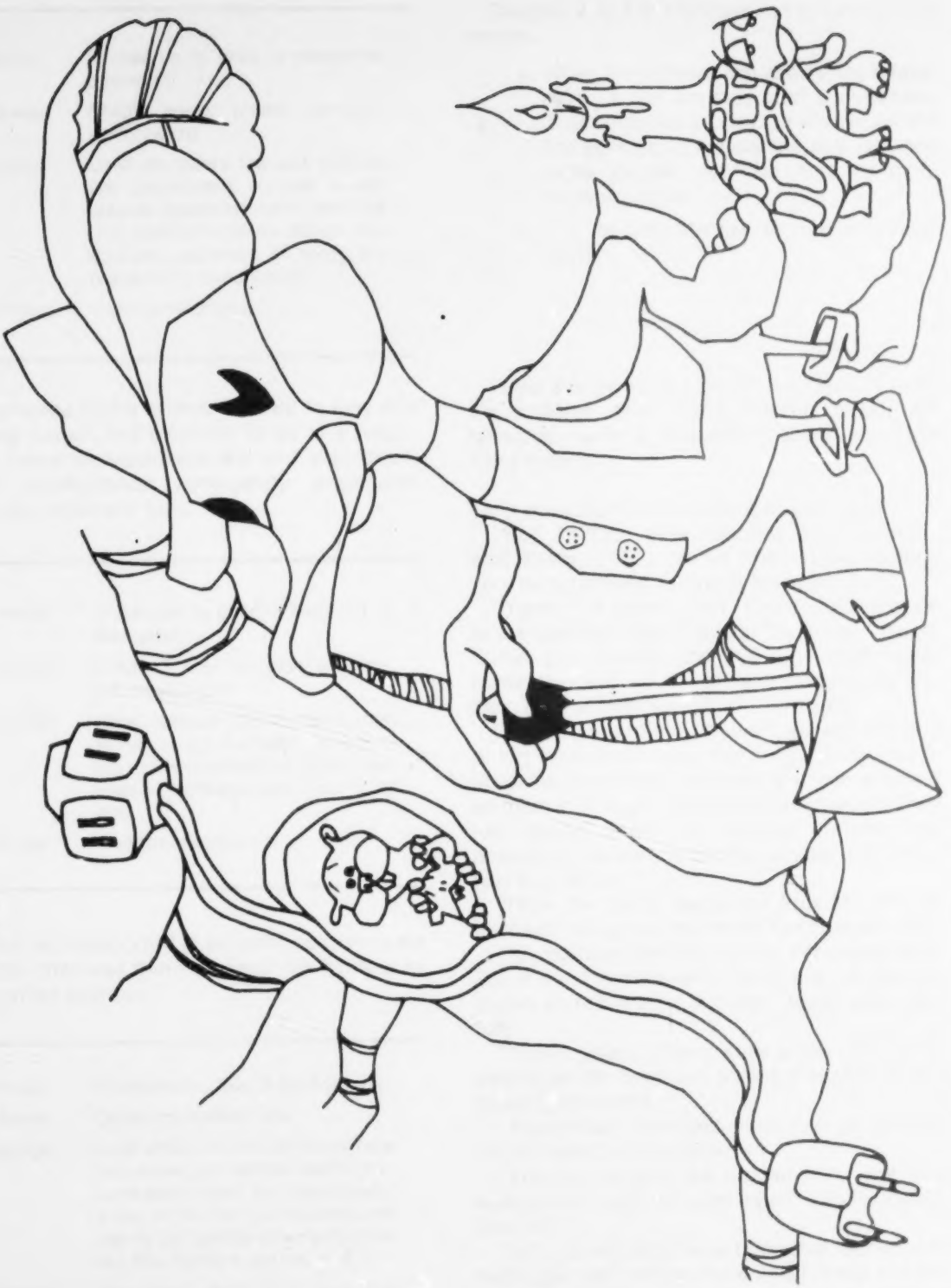
Scene: Child's home; fire station

Action: Child discovers fire and telephones fire department; gives own identity and address and location of fire; fire fighter responds calmly and with approval.

Props: Two toy telephones

If your community uses the 911 emergency number, teach the children about this. Otherwise, emphasize that the students may always obtain help in emergencies by dialing "0" for "Operator."





Roles:	2 children (a child, a telephone operator)
Scene:	Child's home; phone company switchboard
Action:	Child discovers fire and realizes fire department number is not quickly available; calls operator and calmly explains about fire; operator promises to notify fire department immediately.
Props:	Two toy telephones

Emphasize that it is important *not* to stay in a burning house. Tell students to go to a neighbor's home to report the fire and stay there. Again re-emphasize emergency evacuation plans and actions to take.

Roles:	3 children (a child, a neighbor, a firefighter)
Scene:	Child's home; neighbor's home; fire department
Action:	Child discovers fire in home; runs to neighbor's for help and phoning of fire department. Gives own identity, address, and location of fire.
Props:	Two toy telephones

If the fire is reported at an alarm box, suggest that the child wait there to direct fire fighters to the correct address.

Roles:	3 children (a child, 2 fire fighters)
Scene:	Outdoors at alarm box
Action:	Child discovers fire; does not see telephone, but notices alarm box; uses box to alert fire department; waits at box for fire fighters and calmly but quickly directs them to fire. Fire fighters are pleased.
Props:	Simulated alarm box and fire truck

Discuss why it is important not to turn in false alarms.

- While fire fighters are answering a false alarm, a real fire may start somewhere. There may not be enough fire trucks and fire fighters to handle the real fire, and more people may be hurt or more houses burned.
- It is against the law to turn in a false alarm.

Read the following story to the class or have the children take turns reading aloud. Afterwards, have a discussion about what the story means.

Let's Have a Little Excitement Around Here

"Boy, nothing ever happens around here," said Marty, sitting on his front steps, looking very bored indeed, talking to his friend, Don.

"Yeah, it is pretty quiet. You should've been at our apartment building last Thursday, though. Some guy across the hall got mad about something and set the shower curtains on fire. Boy, did that ever smell bad!" Don said.

"But two fire trucks showed up, with all sorts of big axes and hoses and things. They had to chop the door down because the man wouldn't let them in. It wasn't much of a fire, though. They just hosed down the shower curtains and brought in blowers to get the smoke out. Still, it was kind of fun."

"Plus, the police came and took Mr. what's-his-name away, and the family had to move out."

"Ah, nothing like that's going to happen here. But it must have been fun to see all the fire trucks and stuff right outside," Marty said wistfully.

"It was, yeah." There were a few minutes of silence as the boys sat, poking thoughtfully at a passing inchworm.

"You know," Don said, "You can get the fire department to come here."

"There's not any fire around here. Are you saying we ought to *start* one?" Marty asked, alarmed.

"No, you wouldn't have to do that. Somebody might get hurt. All you have to do is call the fire department and say there's a fire, and they *have* to send somebody to see—I mean, a real fire truck and everything."

"Gee, I don't know," said Marty.

"You're just scared to do it."

"I am not. It's just—"

"Well, if you're not scared, why won't you do it? I dare you to."

"Oh, okay." Spurred on by Don's challenge, Marty went into the house and dialed 911—the way his teacher had taught the class and said he wanted to report a fire in the neighbor's kitchen, giving the address.

Sure enough, a fire truck arrived only moments later, screeching around the corner, siren blaring. Mrs. Johnson, whose kitchen Marty had said was on fire, was very much surprised to see the fireman who appeared at her door.

"Why, no, there's no fire here. I'm sure I don't know who could have reported it."

The fireman stepped outside and saw all the neighborhood children, including Don and a rather guilty-looking Marty, standing around, waiting to see what would happen next.

"All right," the fireman said. "I don't know which one of you put in the false alarm, so I'll just talk to all of you."

"That is a very bad thing to do. In fact, it is against the law to turn in a false alarm, and if you are caught doing it, you can get into very serious trouble."

"Turning in a false alarm is against the law because it can cause someone to be hurt or killed. For instance, this is not a very big town, and the fire department is very small—we only have three trucks. Suppose one of those trucks is out putting out a grease fire on someone's range and another one is out fighting a fire started by an overheated extension cord—which, by the way, is where the other two trucks are right now."

"Now, that only leaves one truck available—in this case, mine. And where am I? I'm out on a false alarm somebody turned in to liven up a dull Saturday afternoon. It happens all the time. So, if there's a real fire, who is going to answer the call? We'll have to get equipment from the next town, and that takes time. In the meantime, somebody's house or apartment or store will be burning, and people and pets may be getting hurt."

"That's why turning in false alarms is against the law. Whoever turned this one in should be ashamed."

The fireman got back into the truck with the rest of the crew and drove away.

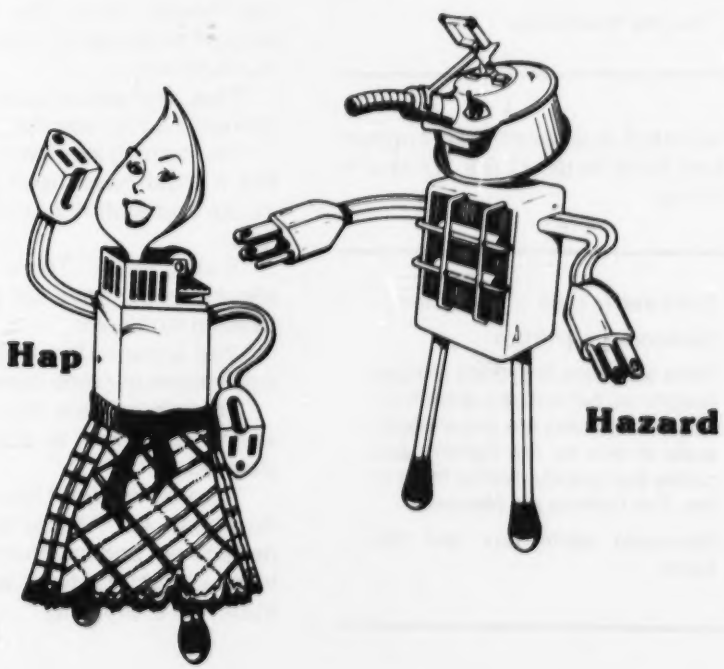
"Boy, you really have some dumb ideas, Don."

"Yeah, I guess so. He was pretty worked up about it."

"I hope there wasn't a real fire this afternoon."

"Me, too. What are we going to do next?"

"Let's stick to watching bugs for a while. I've had too much excitement for one day."



8. Guest Speaker

Approximate time: 1 to 2 hours

Materials: Check with speaker and have requested materials available.

Objectives: Children should appreciate the reality of fires. Children should know the most frequent causes of fires and the best preventive measures. Children should understand the nature of the role of the fire fighter.

Invite a local fire fighter to speak to the class and give a demonstration on fire hazards. Before the guest speaker comes, have the children think of questions they may want to ask.

Ask the fire fighter to describe what it is like to be a fire fighter; the various causes of fires; and how children can help prevent fires.

9. Striking Up

Approximate time: 15 to 30 minutes

Materials: Several types of matches (book, safety, strike-anywhere, etc.)

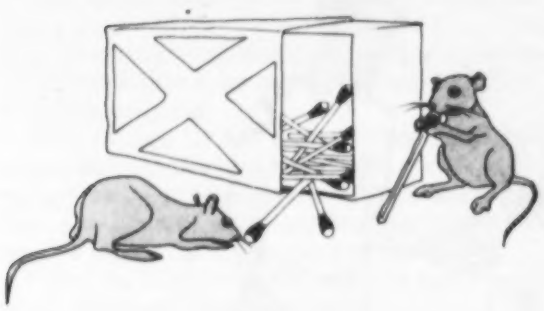
Objective: Children should know the different hazards associated with different kinds of matches.

Discuss the potential hazards associated with matches. Explain that many of the injuries and damage attributed to matches are caused by the unsafe *use* of matches.

Have available to show the students the different kinds of matches (book matches, safety matches, and strike-anywhere matches). Use the following questions in a discussion:

- Why does the matchbook say "close cover before striking?"
- Why is a matchbook with the striking surface on the back of the cover safer?
- Why are "safety" matches safer than the "strike-anywhere" kind?

(In answering this, consider the fact that rats and mice could start a fire by gnawing the tips of "strike-anywhere" matches.)



10. Now And Then

Approximate time: Over several weeks

Materials: Reference books, bulletin board, art supplies

Objective: Children should understand the different hazards relating to the past and present.

Study the history of man's use of fire—what he did before matches were invented and how people heated homes and cooked.

Ask the class which methods they think are safer—the modern ones or the older ones? Discuss some of the dangers associated with each. Have the students draw pictures or create a bulletin board illustrating the points brought up in the discussion. An exhibit of pictures of ranges, fireplaces, or other heating and cooking devices could also be planned.

11. An Unmatched Fire

Approximate time: 30 minutes

Materials: Sunlight, magnifying glass, and wood shavings, paper, or dry leaves

Objective: Children should understand that a flame need not be present for ignition to occur.

Illustrate that a flame is not always necessary to start a fire. What counts is the presence of heat, air, and fuel. Demonstrate this by concentrating sunlight onto paper, wood shavings, or dry leaves through a magnifying glass.

Discuss other situations in which things may catch fire without direct contact with a flame. For example:

- A person's clothing may ignite if he stands too long or too close to a fireplace or a space heater . . . or if he leans against a hot range—even though the clothes do not touch the flames or heating coils.

- Newspapers stored in a warm, slightly damp place can get hot enough to burn. Heat is created by the newspapers' absorption of moisture. If the heat produced by this and the slow oxidation (combination of carbon with oxygen from the air) present in the paper cannot be dissipated in the air through adequate ventilation, a fire can start. (For the same reason, charcoal stored in a warm, damp place can spontaneously ignite.)

12. Sing Along

Approximate time: 15 minutes

Materials: Duplicated copies of song (optional)

Objective: Children should memorize and understand the safety message contained in the song

Your students may enjoy singing the following song:

(Tune: "My Bonnie Lies Over the Ocean")

Think Fire Safety

My friends always practice fire safety.
They never get careless or bold.
They never save rags or old papers.
They're careful without being told.

Chorus: Think fire
Safety,
Be careful and you won't get burned.
Don't be careless,
Show everyone you're concerned.

Their gasoline's always stored safely,
They don't play with matches or fires.
They keep an extinguisher handy.
They're careful to check for frayed wires.
(Chorus)

13. That Really Burns Me Up

Approximate time: 1 to 1½ hours

Materials: Small swatches of fabrics—cotton, wool, linen, silk, acrylics, modacrylics, polyester, blends, upholstery fabric, flame-resistant flannel; deep glass or heavy metal dish; matches or lighter; tongs; *Fire in Your Life*

Objective: Children should know the dangers associated with different types of fabrics. Children should understand the dangers of using certain types of fabric for certain types of clothing.

Many children of elementary school age are severely burned when they set their clothing on fire while playing with matches, or coming close to another type of ignition source. Teach your students that their clothing will burn—and so will upholstery and drapery fabrics.

Collect small swatches of a variety of fabrics. Include natural fibers (cotton, wool, linen, silk), synthetic fibers (acrylics, modacrylics, polyester), and blends of natural and synthetic fibers. Also include some upholstery fabrics and samples of flame-resistant fabrics used in children's sleepwear. Include a sample of non flame-resistant flannel for comparison. Make sure there are a variety of fabric weights and surface finishes.

In a deep glass or heavy metal dish, use a match or cigarette lighter to set the fabrics on fire. Use tongs to handle the burning swatches. Use other precautions as noted in the beginning of this Guide.

Note that:

- Natural fibers burn.
- Wool is difficult to ignite and tends to self-extinguish.
- Synthetics have a tendency to melt while burning.
- Both fabric weave and weight affect flammability. Tightly woven fabrics burn more slowly and are more difficult to ignite than sheer, loosely woven fabrics.
- Sometimes the surface nap burns, but the base fabric doesn't.
- Flame-resistant fabrics will burn, but more slowly than untreated fabrics of the same type. Also, flame-resistant fabrics will extinguish themselves when the flame is removed.

In light of what this demonstration shows, discuss with your class the best fabrics to use for specific types and items of clothing. What are the dangers of wearing a long, fuzzy robe near a fireplace or space heater? Most children will wear flame-resistant sleepwear (0-14) which is required by law.

Tell your students about the steps the U.S. Consumer Product Safety Commission has taken to make their clothing and home furnishings safer. Under the Flammable Fabrics Act, the Commission has flammability standards for general wearing apparel, carpets and rugs, mattresses, and children's sleepwear, sizes 0-14.

14. Checking it Out

Approximate time: 30 minutes to 1 hour in class
15 to 30 minutes at home

Materials: Duplicated copies of checklist

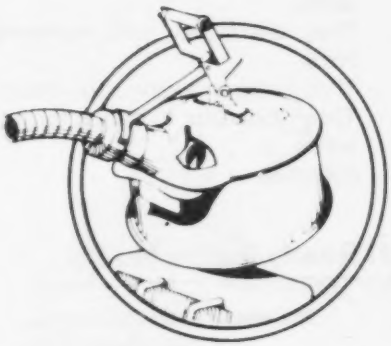
Objective: Children should be aware of typical fire hazards in the home and the best ways available for eliminating them.

Students should be alerted to potential fire hazards at home and at school. They should also be made aware of careless actions frequently responsible for accidents and injuries.

In class, draw up a safety check list. You might wish to refer to the checklist presented here just to be sure that the class discussion adequately covers the major areas.

In drawing up the checklist, discuss why given situations or actions are hazardous. Emphasize that gasoline is extremely dangerous and volatile and that its vapors may be ignited by a spark or pilot light some distance from the container. Further note that an "empty" gasoline container is more dangerous than a full one because it may be filled with highly explosive vapors. Tell your students that gasoline should not be stored in the house and should *never* be used to remove paint or to clean parts of lawn mowers, bicycles, and other machinery.

Use the checklist your class develops or the one presented here to conduct home and school safety surveys. In class, discuss which situations were most frequently found. Draw pictures to illustrate these hazardous conditions and actions.



Home Safety Check

Check your house or apartment room by room to see which of these fire hazards you find. Then take action to correct them.

Kitchen

___ Matches within easy reach of children.

___ Overloaded outlets or extension cords.

___ Curtains or towel racks close to the range.

___ Flammable liquids (cleaning fluids, contact adhesives, etc.) or aerosols stored near the range or other heat source. Remember, even a pilot light can set vapors on fire. Dispose of outdated or empty cans properly.

___ Attractive or frequently used items stored above the range where someone could get burned reaching for them (especially small children in search of cookies or other goodies).

___ Worn or frayed appliance or extension cords.

Living Room, Family Room, Den, and Bedrooms

___ Matches and lighters within reach of young children.

___ Too-small or too-full ashtrays. Ashtrays should be large, deep, and emptied frequently, but only when all signs of heat and burning are gone.

___ Unscreened, uncleaned fireplace.

___ Worn or frayed extension cords or other electrical cords.

___ Extension cords run under rugs and carpets or looped over nails or other sharp objects that could cause them to fray.

___ Insufficient air space around TV and stereo that could cause them to overheat and start a fire.

___ Curtains, furniture, papers near a space heater.

___ Overloaded outlets or extension cords.

Basement, Garage, Storage Areas

___ Piles of stored newspapers or other rubbish. Newspapers stored in a damp, warm place may ignite spontaneously.

___ Oily, greasy rags. If these must be stored, they should be kept in labeled and sealed non-glass containers, preferably metal.

___ Flammable liquids (varnish, paint remover, paint thinner, contact adhesives, cleaning fluids) stored near workbench or pilot light and in anything other than labeled, sealed metal containers. Dispose of outdated or empty cans properly.

Gasoline stored in the house or basement. It should be stored away from the house (in an outbuilding). Never keep gasoline in glass bottles, plastic jugs or other unsuitable containers. You may want to consider a container with certain safety features such as a pressure release valve and/or a flame arrester.

___ Overloaded outlets or extension cords.

___ Fuses of the wrong size.

Have you seen anyone—

____ Cooking while wearing clothes with loose, floppy sleeves or full, billowing tops or skirts that may catch fire?

____ Using gasoline to start a fire in the grill or adding lighter fluid to an already-started fire?

____ Smoking in bed, in a chair, or on the sofa when tired, drinking, or under medication?

____ Spraying aerosols while smoking or near a space heater, range, or other ignition source?

____ Smoking while using a cleaning fluid, a paint thinner, or another flammable liquid?

____ Using a cigarette lighter after spilling fluid on the hands or clothing?

____ Reaching over a range or climbing onto a range to get something stored above it?

____ Leaning against a range for warmth or standing too near a heater or fireplace?

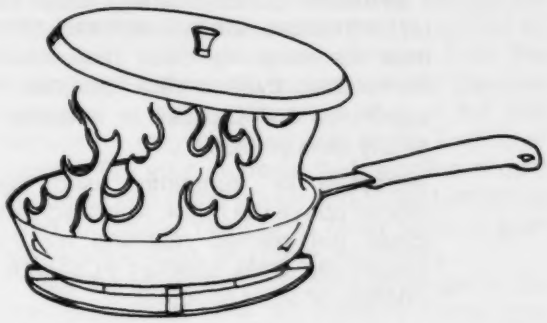
____ Inviting a small child to blow out a match?

____ Cooking without long hair tied back?

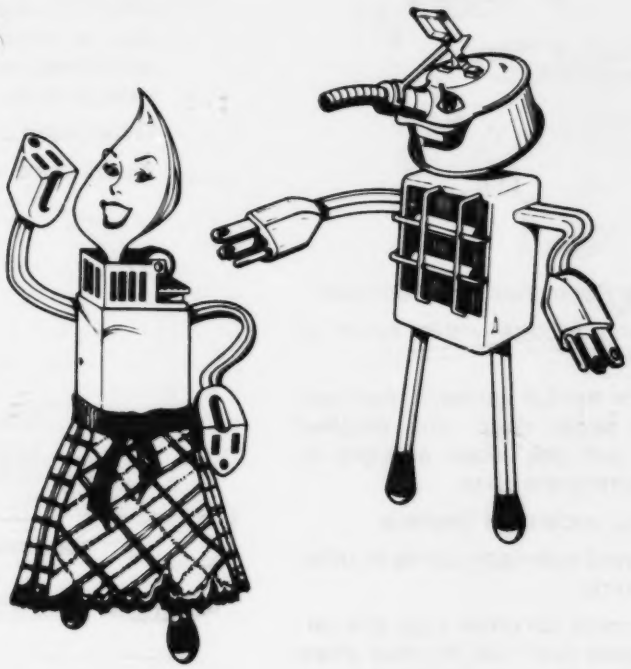
____ Peering into a closet with a lighted match, lighter, or candle?

____ Attempting to extinguish a grease fire with anything but baking soda or a lid?

____ Playing with matches or lighters? Small children do this frequently—and so do some adults.



These actions are dangerous. Ask your family to stop—for their own sake and for yours.



15. Current Events

Approximate time: 20 to 40 minutes in class
30 minutes to 1 hour at home

Materials: Newspapers

Objective: Children should know the most frequent causes and preventive measures for fire.

Students should understand the common causes of fire. Over a period of time, ask the class to collect newspaper articles describing fires and burn accidents in your area.

- What causes are given most often?
- How could these fires have been prevented?

16. Word Games

Approximate time: 15 to 30 minutes

Materials: Pencils and paper

Objective: Children should be able to identify and use words relating to potential fire hazards.

Help your students build a good fire safety vocabulary. There are a number of word games that can be used.

- Have students devise anagrams for their classmates to solve.
  Examples:
  DASHRAZ (HAZARDS)
  CELERITYTIC (ELECTRICITY)
  ROUNDSAGE (DANGEROUS)
  RIFE (FIRE)
  NEILOSAG (GASOLINE)
  VOTES (STOVE).

- The class can play simple crosswords:

```
    H
    A
    Z
  G A
  AEROSOL
  S D
  O
  FLAME
  I
  N
  E
```

- Have your students make up "hidden word" games for other students to solve. An example is given below:

T K M F I R E Z W I
R H O A F A B U R N
A B G S T O V E H C
S R L A D C Q U N R
H D A V S I H D H O

17. Just For Fun

Approximate time: 30 to 45 minutes (can also be used as long term project)

Materials: Pencils and paper (art supplies optional)

Objective: Children should be able to communicate safety messages in a creative manner.

Students may like to try to write safety limericks. Collect them, illustrate them, and put them into a booklet. Or make the limericks poster size and display them in the school corridors or classrooms.

An example is given below:

There once was a man named Lamar
Who kept gasoline in a jar.
He dropped it; it broke.
He went up in smoke.
(He shouldn't have lit a cigar.)

18. A Smoke Detector In Time Saves . . .

countless lives and an untold amount of property from destruction by fire and smoke.

The following is information about an inexpensive and reliable means of protection for families from injury and loss of property due to fire and smoke. Prepare a handout using this information for your students to take home, or simply use this page. Young children are among those who benefit most from their family's use of smoke detectors. Emphasize the need to plan an emergency escape plan.

A smoke detector senses a fire a few minutes after it ignites and gives warning before smoke becomes deadly. Smoke spreads faster than heat and most victims die from inhaling it long before heat or flames reach them. Smoke detectors help save lives and minimize the loss of property.

Two types of smoke detectors are available:

The **IONIZATION CHAMBER DETECTOR** usually senses flaming fires before a photoelectric detector. It uses a radioactive source to produce electrically-charged molecules (ions) in the air. This creates an electric current within the detector chamber. When somke enters the chamber, its particles attach themselves to the ions, thus lowering the current and setting off an alarm.

The **PHOTOELECTRIC DETECTOR** usually senses smoldering fires before the ion chamber detector. The unit uses a light source and light-sensitive cell. The light scatters when it strikes the smoke particles, reflecting into the cell, and sets off the alarm.

Smoke detectors have proven to be most successful in protecting people and property from fire and smoke. Many Federal, State and local agencies have begun to require their use in houses and mobile homes. The U.S. Consumer Product Safety Commission has made smoke detectors a focus of its fire safety program and has begun to distribute information about purchasing, installing and maintaining them. Key points to remember are:

PURCHASING—

—Buy a smoke detector with complete instructions and information.

—Consider the location of outlets when buying an electric model; also that your electricity may be unreliable in a fire.

—Consider the need to remember to replace the batteries of a battery-operated detector.

—When choosing a battery-powered detector, be sure it will sound a warning when the power is too low to operate the smoke detector.

—Choose a photoelectric detector which sounds a warning when its bulb burns out.

INSTALLATION—

—Put a smoke detector outside the bedroom door to warn you while you sleep.

—Put a smoke detector near or on the ceiling, at the top of a stairway, or in other places where smoke is likely to pass as it rises.

—Install a detector on each floor of your house.

MAINTENANCE—

—Replace batteries once a year or when the warning of low power sounds.

—Follow the manufacturer's instructions for testing your smoke detector periodically (in any event, at least once a month).

V. A Note to the School Librarian

The school library or media center can play a vital supportive role in product safety education. The first and most obvious way is by making appropriate materials available to students and teachers. Many organizations have low cost brochures, posters, and films that may be useful in your school's program. You might wish to write them to determine what materials might be appropriate for your library. Many of these addresses are given at the end of this Guide.

The U.S. Consumer Product Safety Commission has available a number of fact sheets and brochures. There is also a transparency presentation entitled *The Hazard Hunt*, which is available on loan from the nearest CPSC area office.

Compile a bibliography of books and materials concerning product safety, organized by grade level, and distribute it to the classes. Arrange a special section in the library where the newer or more useful books or materials can be prominently displayed.

The library can also serve as a display center for projects completed by different classes. Bulletin boards can be used to display students' art work, as well as announcements for special programs or safety fairs.

Display cases can be used to exhibit models illustrating the history of man's use of fire or technological advances in products such as matches, ovens, heaters, electrical appliances, etc.

Make product safety a prominent part of your library, and, above all, make sure that students and teachers alike know what materials are available to them and urge them to use these as frequently as possible.

Appendix
Where to Go for More Information

U.S. Consumer Product Safety Commission
Directorate for Communications
Washington, D.C. 20207
Write for free catalog.

Consumer Product Safety Commission Area Offices:

Atlanta Area Office
Consumer Product Safety Commission
1330 West Peachtree St., N.W.
Atlanta, Georgia 30309
404-526-2231
(Ala., Fla., Ga., Ky., Miss., N.C., S.C., Tenn.)

Boston Area Office
Consumer Product Safety Commission
100 Summer St., Rm. 1607
Boston, Massachusetts 02110
617-223-5576
(Conn., Mass., Me., N.H., R.I., Vt.)

Chicago Area Office
Consumer Product Safety Commission
230 S. Dearborn St.
Rm. 2945
Chicago, Illinois 60604
312-353-8260
(Ill., Ind.)

Cleveland Area Office
Consumer Product Safety Commission
Plaza Nine Bldg.
55 Erieview Plaza, Room 520
Cleveland, Ohio 44114
216-522-3886
(Mich., Ohio)

Dallas Area Office
Consumer Product Safety Commission
1100 Commerce Street, Room 1C 10,
Dallas, Texas 75242
214-767-0841
(Ark., La., N.M., Okla., Tex.)

Denver Area Office
Consumer Product Safety Commission
Suite 938, Guaranty Bank Building
817 17th Street
Denver, Colorado 80202
303-837-2904
(Colo., Mont., N.D., S.D., Ut., Wyo.)

Kansas City Area Office
Consumer Product Safety Commission
Suite 1500, Traders Nat'l Bank Bldg.
1125 Grand Avenue
Kansas City, Missouri 64106
816-374-2034
(Ia., Kan., Mo., Nebr.)

Los Angeles Area Office
Consumer Product Safety Commission
3660 Wilshire Boulevard, Suite 1100
Los Angeles, California 90010
213-688-7272
(Ariz., So. Cal.)

Twin Cities Area Office
Consumer Product Safety Commission
Metro Square, Suite 580
7th and Robert
St. Paul, Minnesota 55101
612-725-7781
(Minn., Wis.)

New York Area Office
Consumer Product Safety Commission
6 World Trade Center
Vesey Street, 6th Floor
New York, New York 10048
212-264-1125
(N.J., N.Y., P.R., V.I.)

Philadelphia Area Office
Consumer Product Safety Commission
10th Floor, 400 Market Street
Philadelphia, Pennsylvania 19106
215-597-9105
(Del., D.C., Md., Pa., Va., W.Va.)

San Francisco Area Office
Consumer Product Safety Commission
Suite 500, 100 Pine Street
San Francisco, California 94111
415-556-1816
(Hi., Nev., No. Cal.)

Seattle Area Office
Consumer Product Safety Commission
3240 Federal Building
915 Second Avenue
Seattle, Washington 98174
206-442-5276
(Alas., Ida., Ore., Wash.)

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For further information, write:
U.S. Consumer Product Safety Commission
Washington, D.C. 20207
Toll Free Hotline: 800-638-CPSC (2772)

TTY (Including Alaska and Hawaii) 800-638-8270
TTY Maryland only 800-492-8104

Field Office Addresses

Central Regional Center
230 South Dearborn Street,
Rm. 2945
Chicago, Illinois 60604
FTS/8-353-8260 (Com/312-353-8260)

Eastern Regional Center
6 World Trade Center
Vesey Street, 3rd Floor
New York, New York 10048
FTS/8-264-1125 (Com/212-264-1125)

Western Regional Center
555 Battery Street, Rm. 401
San Francisco, California 94111
FTS/8-465-1523 (Com/415-705-1813)

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The U.S. Consumer Product Safety Commission (CPSC) is an independent regulatory agency charged with reducing unreasonable risks of injury associated with consumer products. The U.S. Consumer Product Safety Commission is headed by five Commissioners appointed by the President with the advice and consent of the Senate.

PRODUCT SAFETY, IT'S NO ACCIDENT.

U.S. CONSUMER PRODUCT
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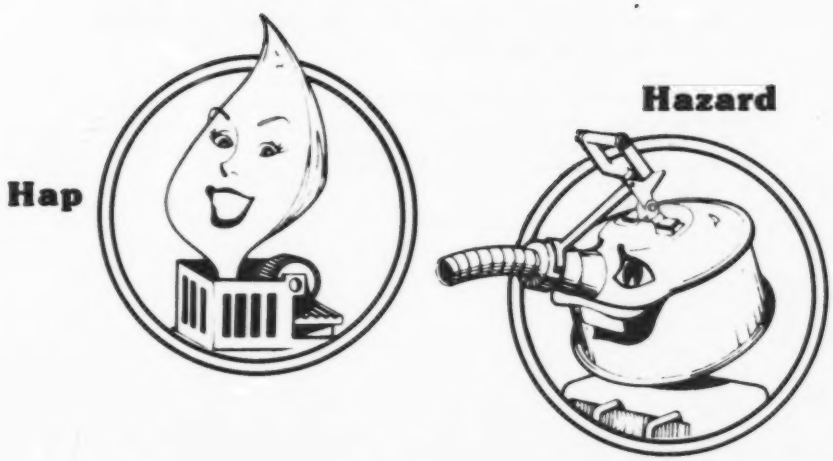

Revised September 1990